

Homework 5

CMSY-199, Fall 2012

The source code and sample output for this assignment must be submitted electronically using the Canvas course website prior to the start of class on Monday, November 26.

There are 8 elevators available to take passengers up and down the floors of a 102-story building. Each elevator can be stopped, stopping, moving up, or moving down. It takes an elevator 3 seconds of stopping to be stopped. It currently takes each elevator 2 seconds to move between each floor.

Building tenants are complaining about the length of time they have to wait for elevators and the time it takes for them to get to their destination.

Implement a simulation, based on the set of start time, start floor, and end floor data from the Elevator.csv file, and determine the average wait time and the average travel time for the tenants.

A contractor has proposed to speedup the elevators from 2 seconds to 1 second between each floor (for a small fee). Rerun the simulation with a time between each floor of 1 second to determine the percent reduction in average wait time and the percent reduction in average travel time for the tenants.